

THE PSYCHOLOGICAL BULLETIN

PROCEEDINGS OF THE TWENTY-SECOND ANNUAL
MEETING OF THE SOUTHERN SOCIETY FOR PHI-
LOSOPHY AND PSYCHOLOGY, ATHENS, GEORGIA,
APRIL 22 AND 23, 1927

Report of the Secretary-Treasurer, J. A. HIGHSMITH
North Carolina College for Women

The Council of the Southern Society for Philosophy and Psy-
chology held in Peabody Hall, University of Georgia, April 23, 9 A.M.

The following recommendations were adopted by the council:

1. For officers for the year 1927-28: President, Josiah Morse;
Members of the council, A. S. Edwards, R. L. Bates, and L. R.
Geissler.

2. That the invitation to meet at the Virginia Military Institute,
Lexington, Virginia, be accepted.

3. That thirty-two nominations for membership be approved.

4. An invitation from Dr. Frank N. Freeman to meet with the
American Association for the Advancement of Science in Nashville
on December 26, 27 and 28 was read. The council voted to coöperate
with the association in its meeting at Nashville.

BUSINESS MEETING OF THE SOCIETY, 9:30 A.M.,
APRIL 23

PRESIDENT EDWARDS, *Presiding*

The Secretary read the recommendations of the Council. By a
vote of the Society the recommendations of the Council were accepted
and ordered published in the proceedings of the Society.

It was moved and adopted that the annual membership fee be
increased from one dollar to one and a half dollars.

Upon motion it was voted to continue the committee on the status and teaching of Psychology.

It was moved and voted that a committee on the status and teaching of Philosophy be appointed to study the situation and report at the meeting of the Society in 1929. The committee is to be selected by the Council.

It was then moved and unanimously voted that the Society express its appreciation of the hospitality, kind treatment, and efficient arrangements provided by the University of Georgia for the entertainment of the Southern Society for Philosophy and Psychology.

The meeting adjourned.

LIST OF PAPERS

1. English Bagby, University of North Carolina, Chapel Hill, N. C. Two Simple Hysterical Reactions.
2. R. L. Bates, Virginia Military Institute, Lexington, Va. Some Factors Incident to Freshmen and Sophomore Withdrawals in College.
3. Gardner C. Bassett, University of Kentucky, Lexington, Ky. A Case of Liberation of Suppressed Desire in Delirium.
4. Paul L. Boynton, University of Lexington, Lexington, Ky. A Study of Moral Judgments.
5. Roy M. Dorcas, Johns Hopkins University, Baltimore, Md. The Effect of Fixation and Non-fixation on the Head Upon Post-rotation Nystagmus Time.
6. Knight Dunlap, Johns Hopkins University, Baltimore, Md. The Origin of Clothing.
7. P. F. Finner, Florida State College for Women, Tallahassee, Fla. Variability of Performance and its Significance.
8. S. C. Garrison, Peabody College, Nashville, Tenn. Reliability and Predictability of Certain Measures of Intelligence.
9. Pantha V. Harrelson, Wesleyan College. The Speech of a Three-year Old Child in a Strange Environment.
10. Edgar H. Henderson, University of Georgia, Athens, Ga. The Philosophy "As If."
11. Buford Johnson, Johns Hopkins Hospital, Baltimore, Md. Activities of the Two-year Old.
12. H. M. Johnson, Mellon Institute, Univ. of Pittsburg, Pittsburg, Pa. Some Further Experiments Bearing on the Problems of Sleep.
13. A. O. Lovejoy, Johns Hopkins University, Baltimore, Md. Emergent Evolution.
14. V. R. McClatchey, Florida State College for Women, Tallahassee, Fla. Some Theoretical and Statistical Considerations of the Trait Originality as Herein Defined.
15. Beulah Meier, Florida State College for Women, Tallahassee, Fla. The Child's Sense of Color.

16. Joseph Peterson, Chairman, George Peabody College for Teachers, Nashville, Tenn. Report of Committee upon the Status and the Teaching of Psychology.
17. Joseph Peterson, George Peabody College for Teachers, Nashville, Tenn. Effect of Practice on Individual Differences.
18. Margaret L. Potter, Florida State College for Women, Tallahassee, Fla. Some Findings in a Substitution Test.
19. Herbert Sanborn, Vanderbilt University, Nashville, Tenn. Methodology and Psychology.
20. C. G. Thompson, Emory University, Emory University, Ga. The Status of the Value Judgment.

ABSTRACTS OF PAPERS

Two Simple Hysterical Reactions. By ENGLISH BAGBY, University of North Carolina.

In this paper two patients are described who exhibit fairly typical forms of hysteria. Both react to certain types of recurrent situations with violent headaches, and it is made obvious that the headaches have a certain utility as adjustments.

In attempting to determine the fundamental process underlying these symptoms, the point is made that in all cases of the sort it is important to observe all the behavior which is exhibited before and during the occurrence of the specifically hysterical phenomena. When this was undertaken in the present instances, it was discovered that both patients had formed conduct habits which functioned whenever the appropriate situations arose and that these habits were effective in creating organic bases for headaches. For instance, in one case, there was excessive reading, the eating of indigestible food, and excessive weeping.

Some Factors Incident to Freshman and Sophomore Withdrawals from College. ROBERT L. BATES, Virginia Military Institute.

In the fall of 1925, 282 new cadets matriculated at the Virginia Military Institute. Of this number, 118 individuals withdrew from school before April, 1927. A limited study was made of time of departure and cause of departure. Analysis of the 118 withdrawals indicates that those who leave college within a month or two after arrival, judging from scores made on Thurstone Test (IV) and Cross English Test (Form A), receive their disaffection from a lack of capacity to do the work exacted of them. The students that leave during the months next following represent a higher intellectual type than that of the earlier withdrawals. This group contains individuals who cannot adapt themselves to the exactions of the school, but they in general possess the competence to do effective class work. The first month of college life, the first Christmas vacation, examinations and the completion of the first year's work all take their toll in academic casualties. A study of seasonal variations in departures and causes for departure indicate the existence of sufficiently constant factors which might, if extended into an exhaustive study,

prove helpful to college administration. The peak of withdrawals is in June of the first year. Of the June departures, upon completing the first year, nearly one-fourth of the withdrawals comes from the first quartile of scholarship. Nearly three-fourths of departures at end of session are to be found in the final 25 per cent of scholarship. Test scores, in general, sustain scholarship ratings. Those who are in the fourth quartile of scholarship have but small chance to survive the four years of academic life.

Variability in Performance and Its Significance. P. F. FINNER,
Florida State College for Women.

The measurement of the individual is to-day concerned almost exclusively with the level of the person's performance. The paper consists of a report of the measurement of 48 students for the variability (expressed by the coefficient of variation) in a number of trials of the same test, or tests of the same kind. Among the tests used were dotting, rate of writing letters, reaction time for touch, vision, and hearing, multiplying, color threshold, learning symbols, and several groups of tests involving higher processes. With these were considered the variability in the grades received in college courses, and in tests in psychology. The results showed (1) that variability of performance shows no consistent relation to level of performance; (2) that the variability decreases as the person improves his general level; (3) that variability in one test does not imply variability in a test of another kind; and (4) that for select groups of tests the variability showed a coefficient of correlation slightly over .60 between the members of the group. This concluding result gives some promise for the possibility of measuring a person for his variability as well as his general level.

Reliability and Validity of Certain Group Intelligence Tests. S. C. GARRISON, George Peabody College for Teachers.

Two hundred forty-nine children were given ten intelligence tests from two to six times during a period of six years. The results were then studied for validity and reliability. As measures of validity, a composite score, intelligence test, the Binet (Stanford) Scale, and a composite educational test score were used. The tests were then ranked from highest to lowest for reliability and validity. The National Intelligence Test and the Terman Group Test of Mental Ability were the two ranking highest.

Activities of the Two-Year Old. BUFORD JOHNSON, The Johns Hopkins University.

Methods employed for the determination of the tendencies and abilities of the child of two years may be classified into two types: (1) observation of specific performance under conditions controlled with reference to that performance, (2) observation of various activities in environments set up for promotion of desired development of the child. The observations of the first type have led to standards or indices of mental development with which a particular child may be compared for understanding of his stage of development. These standards are still in process of validation as the environmental influences for the span of life of the two-year old have been so varied and accurate observations have been made upon so few cases that the accumulation of adequate data is not yet complete. The number of pre-school research centers is rapidly increasing and observations of the second type have been obtained to the extent that desirable environments for the development of the two-year old may be described with a fair degree of reliability.

This report of activities is the result of observations of 40 children between the ages of eighteen months and thirty-six months, one and one-half to three years of age. The measurements of mental traits or observations made at this age are primarily records of abilities in motor coördination and in speech reactions, under conditions that indicate the perception, idea, or emotion of the child and his success in adapting to the situations life puts up to him.

The forms of muscular responses are probably too diversified for classification into types. However, skills ordinarily attained by the age of two may be practically considered under the headings: maintenance of equilibrium, locomotion, manipulation, postural changes, expressive gestures, speech reactions. From among the seemingly undifferentiated body movements or limb movements, or facial expressions of the infant, certain movements are coördinated into patterns of response.

The balancing activities manifested at the age of two are: climbing or pulling up on to a box or plank into a standing position and remaining steady often for several minutes. If the object upon which he stands has a spring, such as a jouncing board, the child will frequently spread out his arms to balance. Somewhat rapidly the maintenance of equilibrium is attained in climbing or walking up a steeply inclined plank, in performances upon a slide, in walking

upon the rungs of a ladder, in standing while swinging. Walking upon a wooden rail 2 inches wide and from 4 to 6 inches high is mastered with a fair degree of efficiency and provides the opportunity for balancing movements of arms, head, body, and legs. Throwing of pebbles and of blocks is achieved as balancing movements are mastered. Usually a ball is merely dropped. The higher the object, the greater is the tendency to sway at first, but before the child is three, those who have had such experiences, have maintained excellent balance when placed upon a high table in a dark room. In contrast, children of four and six, who had no such previous experiences, have shown reluctance, trepidation, and poor equilibration when attempting such feats. The predominant activities at the age of two are in the realm of locomotion. The crawling, creeping, walking movements of the first year are coördinated into more complicated acts.

Manipulation of small objects is seemingly enjoyed at times and is accomplished with skill. There is great difficulty in setting nails as there is also in piling blocks one upon another in tower form. The delicate manipulation required seems without the range of abilities at that age.

Such adventures as sliding, joggling, swinging, and climbing give ease in bodily control that leaves the child free to undertake constructive activities, when his ideas clamor for expression and when group games are sought. The child who enters the primary school without such preparation, is handicapped in his social relations often to such an extent, that he never quite catches up. Then failures to get along with other children make him a problem at school, at home, and to himself. Manual skill is early gained if the interest in manipulation and coördination of body, arm and leg movements is encouraged for self-help.

The vocabulary at two consists on the average of 270 words. One boy of two years, six months used 414 words in a period of 2 hours, 40 minutes, of which 118 were different words. It was formerly thought that nouns predominate in the vocabulary of children. Our studies and those of others, who have recently reported on the speech of children in preschool groups, show a greater frequency of verbs and pronouns, the first personal pronoun being frequently used. The types of speech are important. Babbling or play with words persists to a great extent up into the third year and appears to be as important for gaining automatic use of speech as the first somewhat

incoördinated exercise of body muscles is for equilibrium, progression, and manual skills.

There are wide individual differences at the age of two in abilities to coördinate movements, to express ideas, or emotions in words, and to use these abilities in social adaptations. These studies of the child between the ages of one and one-half and three years show the initial stages of many habits. Each developmental period is built upon the preceding habits and is complete only so far as the basic habits are adequate.

Some Further Experiments Bearing on the Problems of Sleep.

H. M. JOHNSON, Simmons Foundation for the Study of Sleep, Mellon Institute, Pittsburgh, Pa.

The first part of the report consisted of illustrations of the manner in which the relative frequency of movement was distributed over the time spent in bed. Each illustration was based on a thousand or more observations made on a particular individual in the course of sixty or more successive nights.

In almost every case a definite minimum is reached within an hour or an hour and a half after the patient retires. The time which elapses before it occurs is practically the same whether the patient retires at 10 or 11:30 P.M. standard time. For fourteen out of eighteen subjects this minimum is absolutely the lowest which is reached. For only three subjects did a result appear which tended to support the proverb "One hour's rest before midnight is worth two hours thereafter."

The results, graphically presented, indicate a wavelike alteration of relative quiet and activity combined with a tendency toward a constant, or a constantly changing, variation. For example, one subject stirs only one-sixth as often at a given time after retiring as a half hour before or after. The "wave-length" appears to be rather constant for a particular individual and is little affected by experimental variables which alter the average level of activity by as much as 25 per cent.

In one subject the influence of a lasting state of worry induced by a love affair showed itself four ways: an increase in the average level of activity of about 50 per cent; a delay of $2\frac{1}{2}$ hours in attainment of the time of greatest quiet; a tendency toward great restlessness in the third quarter of the night; and an earlier awakening in the morning. The characteristic rhythm however is much less affected.

The second part of the paper deals with the results obtained by Mr. G. E. Weigand on performance in psychological tests before and after the time devoted to sleep. Roughly the longer the stay in bed the more quietly the subject rests while he is there; the less fit he is for work immediately after arising and the more fit he is at night.

A Theoretical and Statistical Study of the Personality Trait Originality as Herein Defined. VIVIENNE R. McCLATCHY, Florida State College for Women.

The experimenter arbitrarily defines the term Originality in objective terms and using this definition as a concept has selected and later ranked by 150 judges twenty "original" persons who act as subjects for the investigation.

With this ranking as a criterion certain tests suggested by other investigators of this trait—the Chain Puzzle Test, and an Analogies Test, an Original Analogies Test—together with the Kent-Rosanoff word list were correlated to determine the possible validity of the tests. With the exception of the correlation of the Kent-Rosanoff Test the correlations had no significance. The intercorrelations of the tests themselves were also insignificant, which fact seemed to indicate that the tests did not measure a common trait or factor.

The Child's Sense of Color. BEULAH MEIER, Florida State College for Women.

This paper gives a brief abstract of the literature on the development of color perception in the young child from the very earliest beginning. According to Preyer, Miss Shinn, Hall and others the child first gives indications of behavior toward color during the first month or very shortly thereafter. In all cases the color that was the object of the child's attraction was red brightened by sunshine. It is not known, of course, whether this behavior was aroused by the color itself or by the brightness of same but it is significant that in all cases of observation red seems to have been the first color attracting the child's attention.

The warm colors including red, orange and yellow were found to be the first favorite colors. Baldwin was the only one to observe blue as the preferred color. These same colors were the first color names acquired in the child's color vocabulary.

According to published diaries and vocabularies most children

have learned the color names and to recognize the colors on sight by the time they reach their fourth birthday. Those children could name and recognize the following colors: blue, black, brown, green, red, orange, violet, yellow, white, pink. According to these records there was found to be a great deal of variability as to the age at which the children first recognized and named correctly the different spectral colors. Miss Shinn's niece at twenty-two months was able to recognize and name all the spectral colors while, on the other hand, Preyer's son at thirty-four months could name only five colors, namely, red, yellow, black, violet and brown.

Effects of Practice on Individual Differences. JOSEPH PETERSON,
George Peabody College for Teachers.

It was shown that correlation methods were inadequate since high or even perfect correlations might be obtained with either convergence or divergence of individual differences with practice. Illustrations were also given to show that many of the seemingly conflicting opinions as to how practice affects individual differences were reconcilable if two kinds of units were clearly distinguished—amount of accomplishment per unit of time, always increasing absolutely, and time to complete a given unit of work, always decreasing. Percentage improvement by these two methods gives different results. The coefficient of variability (S. D. or Q/central tendency) was suggested as a method for studying practice effects on individual differences, though imperfections in this method were noted. A study of past researches reveals the fact that in most cases practice resulted in convergence of individual abilities. Certain kinds of practice, however, have given conflicting results, while others have rather consistently resulted in divergence. Mental multiplication illustrates the former of these and ball tossing the latter. An experiment on 20 twelve-year-olds in Peabody College gave divergence in complex card sorting, and divergence in mental multiplication. Another experiment, a continuation of this, carried out in Idaho by Barlow, gave convergence in mental multiplication practice by 96 subjects of a more heterogeneous nature. Ninety-four children in Peabody Demonstration School (data furnished by Garrison and Adams) showed convergence in composition and mixed fundamentals (arithmetic) on results of standard tests through four years, slight convergence in arithmetic reasoning (principle), and no change as to variability in spelling and accuracy in arithmetic reasoning. Grades

in a series of psychology tests of 224 students in general psychology showed convergence. It was pointed out that extensive data from tests with Myers' Mental Measure showed marked convergence or decrease in variability from years six to fourteen, and that such convergence had to be allowed for in studies running through a number of years. It was contended that performances in the practice exercise itself should be obtained and that extraneous tests were deceiving in their results because they varied in complexity. The problem as to whether subjects get more or less alike with practice in any mental function was shown to be important in vocational direction.

Report of the Committee on the Teaching of Psychology. JOSEPH PETERSON, Chairman.

The committee presented and distributed for discussion in the meeting a mimeographed report on the training and qualifications of 302 instructors in psychology who had replied to the questionnaire, and also a table on the books and psychological journals available in 158 institutions in the south. It was shown that of the teachers of psychology those trained in this line had had more academic work than those trained in education, theology, Greek, mathematics, physical sciences, etc.: that the more one's training is foreign to psychology the more willing he is apparently to undertake teaching in psychology. Two-thirds of the institutions reporting named only two or less than two psychology journals available to students. On the other hand 10 per cent of them had ten or more journals, these being the better state and private institutions. The committee emphasized the need of a campaign to increase the number of psychology journals and books in the numerous smaller colleges that must assume so important a part in the education of the youth. A mimeographed list of all institutions in the sixteen southern states meeting the standards outlined by the Society in its 1926 meeting was also presented for discussion in the meeting. The institutions were arranged alphabetically by states. Specifications as to whether all courses, or just elementary courses, taught in each institution met the standards were made. In the discussion it was brought out clearly that there may be serious injustices done in the rating of instructors merely by their academic training or degrees, but it was agreed that with due care these injustices could be largely overcome and that a published list distributed to registrars and to professors of psychology in higher

institutions would accomplish much toward prevention of the transfer of credits in the case of unsatisfactory work. The work of the committee was thought to be invaluable toward the establishments of better standards in psychology teaching. The list of institutions meeting the standards of the Society will be worked over thoroughly and published in due time. It is important that all qualified institutions be on this list.

The Results and Use of Intelligence Tests at the Georgia State College of Agriculture. W. W. REITZ, University of Georgia.

The Thorndike Intelligence Examination for High School Graduates was administered to the Freshman class at the opening of the college. The instructors were furnished with the scores and instructed in the use of them as a means of checking on the grade of work their students were doing. An effort was made to stimulate the students to measure up to the ability indicated by his intelligence examination score. At the end of the first term the correlation between test scores and academic grades were found. The result showed improvement in academic standing, which was attributed to the influence of the test scores.

Methodology and Psychology. HERBERT SANBORN, Vanderbilt University.

The present confusion in psychology and in all the other fields of science as well is doubtless due to the fact that investigators have left the field of science proper and have passed, perhaps unwittingly, to the field of realistic philosophy. This philosophy, whether true or false, naïve or sophisticated, is probably irrelevant to the immediate issues of science as such and in any case should not be allowed to prejudice scientific investigation. Methodology is an investigation of the principles of scientific knowledge and itself rests upon the investigation of the principles of knowledge, that is, upon the theory of thought and knowledge. The naïve view that science in some unexplained mystical way establishes its own validity by a system of "trial and error" in scientific tradition rests ultimately upon a theory of scientific evolution, which as such presupposes a theory of theorizing.

The sciences start with presuppositions which they as sciences do not and cannot investigate and they end with results which they cannot evaluate. When, now, they do attempt to transcend their

self-imposed limits we have mathematicism, physicism, biologism, psychologism and the like which need to be reminded of the foundations upon which they have erected their superstructure.

Practical science represents an attempt to anticipate or predict events by means of an application of mathematics to reality, and assumes certain principles in accordance with this purpose. There is no reason for denying that this method may not be carried through in every field of investigation. Dissatisfaction with this mechanical method has given rise to the development of genetic methods which represent an attempt to apply a functional psychological method meanwhile retaining the exact quantitative method for the sake of prediction. This gives rise to so-called "mechanical evolution" with its inherent contradictions, which do not, however, invalidate it as a method. In addition to these there is doubtless room for a truly functional or psychological method in every field of science. Such an evolutionary method would not stand in contradiction with other methods any more than a German who calls a certain object a *Baum* is in contradiction with a Frenchman who calls the same object an *arbre*. From the point of view of methodology a certain latitudinarianism is possible which regards all methods as equally relative and equally valid. Such relativism is probably not the last word even for psychology, but it represents the positivistic platform upon which psychologists and other scientists may stand without discord.

PSYCHOLOGICAL STUDIES OF HISTORICAL PERSONALITIES

BY FRANKLIN FEARING

Ohio Wesleyan University

Although there have been many attempts to study the personalities of the famous personages of history and to interpret in psychological terms the movements of history, the psychological analysis and interpretation of biography as a *special technique* is a development of the last fifteen years.

The demand for the development of this technique has come in part at least from the historians, or perhaps more properly, from that group of historians who have professed a certain discontent with the traditional historical methods. Robinson said in 1912 (37):

"The 'New History' is escaping from the limitations formerly

imposed upon the study of the past. It will come in time consciously to meet our daily needs; it will avail itself of all those discoveries that are being made about mankind by anthropologists, economists, psychologists, and sociologists—discoveries which during the past fifty years have served to revolutionize our ideas of the origin, progress, and prospects of our race. There is no branch of organic or inorganic science which has not undergone the most remarkable changes during the last half century, and many new branches of social science, even the names of which would have been unknown to historians in the middle of the nineteenth century, have been added to the long list. It is inevitable that history should be involved in this revolutionary process, but since it must be confessed that this necessity has escaped many contemporaneous writers, it is no wonder that the intelligent public continues to accept somewhat archaic ideas of the scope and character of history." P. 24.

The same point of view was given a somewhat more definite statement by Shotwell (39) in the following quotation:

"History is more than events. It is the manifestation of life, and behind each event is some effort of mind and will, while within each circumstance exists some power to stimulate or obstruct. Hence psychology and economics are called upon to explain the events themselves. The child is satisfied if you account for the career of Napoleon by a word 'genius,' but that merely opens the problem to the psychologist. The child in us all attributes the overthrow to the hollow squares of Waterloo, but the economist reminds us of the Continental system and the Industrial Revolution which made Waterloo possible.

"The process of interpreting history, therefore, involves getting as much as possible out of history, psychology and economics—using economics in the widest possible sense as the affective material background of life." P. 693.

The point of view and method of attack in psychological interpretation has been derived very largely from psychoanalysis, that is, the majority of the interpretative studies have involved or implied the existence of such concepts as *instinct*, *unconscious motivation*, *infantile sexuality*, etc. L. Pierce Clark, whose contributions in this field are extensive, has made (9) a typical statement of the point of view in studies of this type.

"Critical periods in national life are often imperfectly understood because current events only are considered in their interpreta-

tion. Intensive study of the personalities of great statesmen of any epoch has but recently become an object of psychological research. When the events in the political and social order are properly coordinated with the conscious and unconscious personal motives and desires of its contemporary leaders, we may then expect a sounder and broader view of historic interpretation. . . . Too much reliance, therefore, would seem to have been placed upon current issues and events to explain epochal history, and not enough upon the innate attitudes of certain great contemporaries. These, largely because of their fundamental reaction to certain deeper unconscious personal motives which control human behavior, seize upon the more or less obvious issues of their time and devote themselves to a particular cause with an assiduity altogether out of proportion to any casual reason. . . .

"True historical interpretation, therefore, of any great epochal moment is not possible until we make a careful psychological study of the people of that particular period, especially its great men and leaders. The position in the main is not a new one, but heretofore historians have made a study of the more obvious characterology of the great statesmen and either have not been able, or were unwilling, to study such historic personages in the more scientific manner now possible, although this has already been done in several instances by those trained in methods of intensive mental analysis." Pp. 1, 2.

After pointing out the contributions of modern psychology to our knowledge of primitive and infantile motivation, especially in connection with the operation of these motives in adult life, Clark States specifically the objectives of the study.

"From an historic point of view it would seem desirable to select the prominent leaders of an epoch and proceed to analyze their characters as to salient personality traits and life reactions, and then examine the previous succession of events in their childhood which may have lead up to the main traits of the adult character." P. 3.

Barnes in 1919 (5) presented a detailed examination of the point of view and technique of the psychological school of historical interpretation. He summarized his study in the following terms:

"In this article the attempt was first made to trace the development of scientific historiography to the point where it has provided a vast storehouse of relatively accurate data for the historian; it was then shown that the work in this field of collecting sources and

writing narrative political history was beginning to be supplemented by the next natural development of historical science, namely, the interpretation of this vast amount of data in order to learn its significance in explaining the present order of things; next it was pointed out that while there were a large number of interpretations of history offered, the psychological interpretation was gaining ground more rapidly in adherents than any other . . . finally, the more recent developments in psychology connected with the discovery of the importance of the instinctive and unconscious factors in psychic motives and impulses were mentioned and very briefly described, with a tentative survey of some possible applications of these new discoveries to the interpretation of historical material." P. 375.

Instead of characterizing history as collective biography, as does Carlyle, Barnes would substitute the phrase: the collective sublimation of the neuroses and psychoses of the great personalities of history. The limitations of the method, according to Barnes, are as follows: (a) Few historians or psychologists will have the time or inclination to master the techniques in each other's fields; (b) adequate material is possessed only on personalities of comparatively recent times; (c) the most complete diary or autobiography cannot be regarded as equivalent to the psychiatric study of a living case; and (d) all historical material is the written expression of conscious material and, hence, is subject to "psychological" errors, *i.e.*, rationalization, displacement, projection, etc.

Catlin (6) in his recent book devotes considerable space to the discussion of the relationship of psychology to politics and history. While pointing out that the "fount of historical interpretation must be found in our understanding, scientific as well as amateur, of human nature," he makes it clear that psychological techniques must be used with great caution. He says:

"Psychological hypotheses are, however, as yet uncertain and unsatisfactory expedients for improving historical presentation. If, at the present stage of our knowledge, too many hypotheses are intruded, scholarship, lifted high into the air of conjecture above the ground (alone genuinely historical) of known fact, is likely to suffer the fate of Antaeus. It will be well to be satisfied for the present with the minimum number, the simplest and the least controversial of such hypotheses, of a kind that the plain man has long since conceded and has ceased to regard as more than 'common sense.'" P. 72.

To this appended the following footnote:

"Psychology is here considered as making a contribution to the understanding of human motives, in those cruder and more fundamental forms which hold good for large groups. The contributions which Psychology and Medicine may make to the understanding of the conduct of individual historical personages it would be rash at present to estimate."

The scope of application of this technique is indicated by the list of historical problems which Barnes suggests. Among them are the following: The "impurity complex" of Augustine, Abelard's abnormal doubting and revolt against authority, Luther's early mental conflicts and final revolt against the Holy Father, Voltaire's revolt from authority in the light of youthful experiences, Rousseau's philosophy, Napoleon's career, the revolt of Kropotkin and Bakunin, the study of the effect of the domination by an elderly male relative on the childhood of Jefferson, Spencer and Mill, the obsessed attachment of Kipling and Cecil Rhodes to Britannia, Washington's "Jehovah Complex," the insistence of Hamilton upon an authoritative political system, the sadism and "Jehovah complex" of Andrew Jackson, Lincoln's unusual tenderness for the oppressed, the work of Roosevelt and of Wilson.

The technique has not been confined to the interpretation of historic personalities. It is used also in the interpretation of historical movements and crises. Barnes (4) in discussing "some psychological problems in American history," says:

"Before speaking of the bearing which the new dynamic psychology has upon the analysis of the personality of leading statesmen and politicians, it might briefly be asserted that the mechanisms of modern psychiatry will also serve to throw much light upon those general policies and attitudes which have played a dominating part in our national history. . . . The significance of this line of approach will be apparent from the citation of a few obvious fields where its application seems likely to be fruitful. How far, for example, was the austere impurity complex of the 'glacial age' of New England Puritanism compensation for economic chicanery in smuggling and the rum trade? How far were the philosophical discussions and oratorical tirades concerning liberty, natural rights and revolution in the period following 1765 a compensation for the prevailing system of smuggling? It cannot be without significance that the leading haranguer for liberty in Boston was fed and clothed

by the leading smuggler, nor that the most conspicuous name on the Declaration of Independence was that of the most notorious violator of the customs regulations. . . . Again, was not southern chivalry a collective compensation for sexual looseness, racial intermixture and the maltreatment of the negro? Or, again, as Professor Hankins has suggested, did not the abolitionist zeal of the New England deacons pleasantly obscure the fact that they and their fathers had gained their fortunes from the rum trade with the negroes of the West Indies?" P. 25.

Frink (15) has suggested the mechanism of compensation as being the explanation for the activities of the antivivisectionists and the attitude of southern men towards white women. In the case of the antivivisectionists the compensation is for an "overdeveloped and imperfectly repressed sadistic tendency." Frink also interprets the movement of militant feminism in terms of compensatory activity.

Hinkle (22) has made use of the concepts of introversion and extraversion in characterizing the personality and traits which are assumed to be dominant in certain national groups. For example, England is referred to as a "typical" extravert, while Germany is introverted. Hinkle's interpretation of these reaction types in relation to war is as follows:

"It is to introverted Germany that we must go for the highest development of abstract philosophical and idealistic thinking. True to type, it is in this realm that her masculine principle finds its expression, and when departing from her natural field she assumes the extraverted mode of aggressive action, she must of necessity produce an overdetermined behavior and be doomed to failure when matched against an equally strong and naturally extraverted power. . . . If our world had been one in which philosophy, science and poetry were in equal regard with trade, commerce and machinery, Germany might have continued to use her own functions in the realm for which they are fitted and found her path to power along lines where her supremacy could hold unchallenged. Then the history of the world would have been differently written.

Instead, we have witnessed the supreme effort of an introverted nation to adapt to the objective reality of concrete materialism through the assumption of an extraverted mechanism, and have seen her become the rival in her own field of a powerful extraverted neighbor." pp. 128-129.

Hartman (19) in discussing the psychological point of view in

history attempts to interpret the slavery struggle in psychological terms. After analyzing the technique of the abolitionist propaganda literature, *e.g.*, the likening of one's cause to causes concerning which there is no doubt, and likening the cause of one's opponents to lost, unpopular and detested movements, he traces the development of the attitude of the South toward slavery during the period from 1830 until the war. Hartman finds the conflict to be primarily between "these two forces, the economic drive of the growing profit of cotton and the dawning realization of the moral evil and danger of slavery." The moral issue was ignored by the South, thus making necessary a defense mechanism. This took the form of various rationalizations: (1) slavery was sanctioned by God, (2) negro was better off economically, (3) slavery protected the "honor" of the white women of the South: That which was lost in the moral behavior of the white man was compensated for by the chastity of the Southern women, and (4) the terrible nature of white prostitution—in the North.

Psychoanalytical techniques have been considered also in connection with the interpretation of phenomena in the fields of the social Sciences—notably economics and political science. Although these studies are related only indirectly to the topic of the present paper, it may be noted that in part, at least, the same point of view and technique are emphasized. Merriam (30) says in connection with the methods of interpretation:

"There was a pronounced tendency, however, to inquire into the social and psychological causes of events as well as the more strictly economic. It became evident that unless 'economic' was used as an all-inclusive term covering the whole material environment it would be inadequate as an explanation of human behavior in all instances. While it was frequently asserted that men reason in terms of their economic interests, seldom was the question raised as to what determined their precise type of thought. Obviously the interpretation of the same economic interests might differ and even conflict, in which case the reason for the variation must be sought elsewhere than in the economic force itself and must lie in the forms or types of thinking."

In the chapter on "Politics and Psychology" in his book on "New Aspects of Politics" (29), Merriam makes specific reference to psychoanalysis and psychiatry in relation to political science.

"Psychoanalysis and psychiatry have an important bearing upon

certain phases of political life and conduct. Physicians have learned much from the study of the abnormal type, and possibly students of politics might profit likewise by similar types of study. In criminology it is true that important use has been made of this principle, and it is significant that great progress has been made by reason of the insights thus obtained. Every court and every custodial institution recognizes this fact in the most evident manner. In the other fields of government we have not made equal use of this possibility. We have, to be sure, some studies of the boss and the grafter, and occasionally a pseudoanalysis of the radical or the rebel or the conservative; but these inquiries leave much to be desired in the way of thoroughgoing and scientific analysis." Pp. 83-84.

Gehlke, writing on the subject of social psychology and political theory in the recent book on political theory by Merriam, Barnes and others (31) contrasts the purely intellectual explanation of political phenomena with the "instinctive origins of social facts." He points out that certain common "psychic characteristics" are the condition for the appearance of such political and social phenomena as kingship, a council, parliament or town meeting. He continues:

"There is a very real need for the study of the psychic character of mankind in a field of political theory that is as yet relatively untilled. If man's gregarious instinct, his tendency toward acting as a group prescribes, his fear of authority, his tendency to habit formation, as well as other more or less clearly differentiated impulses cannot be asked to furnish singly or jointly the explanation of why any particular political folkway is what it is, they are still of great importance in another field. This is the field of applied politics." P. 422.

The study of these psychic characteristics in relation to politics is necessary and Gehlke refers to the psychological problems involved in folkway behavior, *e.g.*, bureaucracies, "red tape" procedures of committees, etc. Rivers (36) previously had made the following interpretation of "red tape":

". . . as an illustration of the kind of problem with which the investigating psychologist would have to deal I may mention the highly important and widespread social institution known as 'red tape' . . . The state or process which is known as 'red tape' is one in which these rules (of procedure) are unduly complex and unduly rigid, and have become masters instead of servants. . . . I should like to suggest that one of the factors which enters into the

production of 'red tape' is the activity of a defense mechanism; that it is a protection adopted in a more or less, usually more rather than less, unwitting manner by those who find themselves confronted with administrative problems to which their powers are not adequate. My own experience of individual experts in the use of 'red tape' certainly points in this direction, while it is significant that it flourishes luxuriantly in such departments as the War Office, where men who enter upon the career of arms because they have the qualifications for fighting and adventure find that their essential task is the management of a vast organization in which the qualifications especially needed are very different from those which led them to adopt the army as a career." Pp. 23-25.

This survey of point of view and method in the field of the psychological interpretation of historical events and personalities, while not exhaustive,¹ is sufficient to indicate the trend of interest and points of emphasis of those who have worked in this field. This point of view, while not necessarily Freudian, makes use of certain concepts and postulates of psychoanalysis. The existence of inherited drives seems to be implied or explicitly stated by all of those who have concerned themselves with these problems, though the acceptance of a doctrine of instincts is not, of course, essential to the psychological interpretation of biography. The concepts which those who have worked in the field of analytical interpretation of biography seem to have found most useful, may be summarized as follows:

(1) The experiences and phantasies of childhood as conditioning factors in adult behavior. The sex experiences of the child, situations involving emotional "shock" in childhood, the relation of the child to the family especially the father and mother, and the infantile environmental situation, are of especial value in interpreting adult behavior.

(2) The unconscious motivation of adult action. This seems to be especially important with reference to those situations which are emotionally colored, *i.e.*, those objectives around which the individual organizes his major activities. The doctrine of instinctive drives seems to be implied here and it is assumed that much of the major

¹For further discussion of the psychological interpretation of political phenomena reference is made to Merriam (28) (38), Kallen (24), Gosnell (16), Groves (17), Chase (7), Lippmann (27), Follet (14), and Wallas (41); for the interpretation of economic phenomena, the following are representative studies: Clark (8), Ogburn (34), and Dickinson (12). No review is attempted here of the application of mental testing techniques in the study of social sciences.

creative work of the individual is an expression either of instinctive drives or is conditioned by the factors referred to in (1). In any case it is assumed that not all of the acts of the individual are motivated by conscious intellectual "purposes," *e.g.*, the pursuit of pleasure, self-interest and the like.

(3) The compensatory component in much of the major activity of the individual. This mechanism manifests itself especially in connection with the "feeling of inferiority." Compensatory mechanisms are assumed to be operating in connection with the particular form which the major activities of the individual takes.

(4) The component of rationalization. In order to make the behavior of the individual socially acceptable some form of rationalization is frequently necessary. These rationalizations may be very elaborate, *e.g.*, the "reasons" which are given by the individual for his major acts, especially those stated in formal written form, should be scrutinized from the point of view of this mechanism.

An exhaustive review of the psychological studies of historic personality which have been made is not attempted. Dooley (13) credits the first suggestion for this type of approach to biography to Freud's "Interpretation of Dreams." Freud's study of Leonardo da Vinci in 1910 seems to have been one of the first attempts in which an historical personality was subjected to this type of interpretative technique. Using a childhood memory as related by Leonardo da Vinci in his diary together with the known facts of his life, Freud finds that the great painter-scientist suffered from a mother fixation which dominated his entire life.

During the period from 1910 until 1914 there appeared numerous studies of famous and near-famous men. These studies were, in the main, undertaken from the Freudian point of view and appeared for the most part in the German journals devoted to psychoanalysis. They are summarized in a series of epitomes by Dooley (13) and need not be reviewed here. The list of individuals studied is a varied one and includes the following names: Giovanni Segantini (Karl Abraham, 1911); Andrea del Sarto (Ernest Jones, 1913); Shakespeare as revealed through "Hamlet" (Ernest Jones, 1910); Dante (Alice Sperber, 1914); Nicolaus Lenau (J. Sadger, 1909); Heinrich von Kleist (J. Sadger, 1910); Gogol (Otto Kaus, 1912); Richard Wagner (Max Graf, 1911); Louis Bonaparte, King of Holland (Ernest Jones, 1914); Amenhotep IV (Karl Abraham, 1912); Count Ludwig von Zinzendorf (Oskar Pfister, 1910); Margareta

Ebner (Oskar Pfister, 1911); Loyola (Gerog Lomer, 1913); Schopenhauer (Edward Hitschmann, 1913); Socrates (Karpas, 1915). Smith's study of Luther (40) appeared in 1913.

There appeared in 1919 Barnes' paper, already referred to (5) on the relationship between psychology and history in which the various schools of historical interpretation are critically reviewed and the method and point of view of the psychological "school" presented. The problems of motivation and personality make-up of historical personages are not solved by the "mere" collection of facts. Barnes objects also to any attempt to interpret history in terms of unanalyzed "forces," mystical "ideals" and the like. This point of view is expressed by him in a paper in 1921 in the course of his discussion of Clark's study of Abraham Lincoln (4). Barnes says:

"No doubt there will still be those who will trace Lincoln's hatred of slavery back to the victory of Arminius over the Romans in the Teutoberg Forest, to the universal impulse to liberty from the Teutonic Folkmoot, to the Magna Carta—that alleged harbinger and bulwark of all subsequent liberal sentiments, or to the Conciliar Movement, but most of us will welcome with genuine relief a system of individual psychology which will throw some light upon the fundamental background of human reactions to those basic problems of order and liberty, of authority and rebellion." P. 22.

In the same paper there is a detailed analysis of Alexander Hamilton and Thomas Jefferson. The "anti-authority" complex of Jefferson—the dominant note of his character—is traced to his relationship to a domineering, self-reliant father, and to the fact that he was strongly influenced by his mother and sisters. His policies and political theories are regarded as elaborations of this fundamental revolt against the father. Barnes says:

"In a very real sense the Jeffersonian democracy can be regarded as an elaborate disguise and secondary rationalization of his innate revolt against authority and it is as accurate to say that American democracy may be traced back to the recoil of the pallid youth of Shadwell from his gigantic and formidable father as to hold that it derives its origin from the Teutonic folk-moot or opposition to the political and economic program of Hamilton." P. 35.

Hamilton's youth was spent under conditions, according to Barnes, "ideally adapted to the production of a dynamic and constructive character, searching out after and conquering, rather than retiring from, reality." He had little contact with his father.

The studies of Clark in 1921 and 1922 are among the most elaborate of those appearing in English. The first of these studies (9) to which reference has already been made, is in the main devoted to a psychologic study of Abraham Lincoln. The most outstanding characteristic of Lincoln's personality from the psychological point of view was the periodic depressions from which he suffered. Clark reviews the theories of Freud and Hoch with regard to the depressive reaction, that is, that this mechanism is evidence of defective adaptation at the adult level, and connotes the subject's wish to die and regain the mother. The influence of the mother ideal is traced by Clark in all the major actions of Lincoln's life.

The second study of Clark's (10) is concerned with the epileptic personality in the genius. The chief traits of the epileptic personality make-up are found to be egocentricity, supersensitiveness, emotional poverty. The lives and personalities of three epileptic geniuses are studies in some detail—Dostoevsky, Napoleon and Caesar. In connection with the study of famous epileptics, the analysis of the alleged epilepsy of St. Paul by Moxon (33) should be mentioned.²

Harlow in 1922 made a psychological study of Samuel Adams (18) whom he characterizes as a "neurotic acting under the powerful stimulus of an inferiority complex." In discussing this type of approach to the study of the historic personality, Harlow notes the danger of idealization "a process that always precludes understanding."

Kempf has published in 1920 (25) a study of Charles Darwin³ which he introduces with the following words:

"In the psychology of the family it has been shown that the father or mother, through conscious and unconscious resistances and coercions, cultivates the child's affective cravings to assume a characteristic attitude and seek definite objects and methods of expression. These methods of fulfilling the wish may or may not cause the individual, when he or she becomes an adult, most distressing anxiety. This depends upon the nature of the social requirements and the resistances which have to be overcome. It is always necessary to bear in mind the question, 'Does the individual suffer from an ungratified craving for a normal but inaccessible object, or does he

² Another recent study of St. Paul—that of Anderson (1)—finds evidence for hysteria rather than epilepsy.

³ This study first appeared in 1918 (26). See also the study by Hermann (21) published in 1927.

suffer from a wish for an abnormal, degrading object?' The two following cases (Darwin and an unnamed individual) of eminent scientists are selected to show the mechanism of prolonged struggles to *sublimate affective needs* in highly developed personalities, and the chronic anxiety endured because affective suppressions had to be made, which, in turn, were due to the unmodifiableness of the resistance to the affect and the fixed manner in which the affective-autonomic cravings had been *conditioned*." P. 208.

Kempf's analysis of the factors which made Darwin "one of the great constructive thinkers of all time" is interesting. They may be summarized as follows: (1) the loyalty with which Darwin cherished his mother's wishes—to this Kempf appends the note that it was fortunate that these wishes were practical as well as ideal "which cannot be said of the wishes of most mothers." (2) Darwin's absolute freedom of thinking and theorizing about "everything." (3) His "inherent" perseverance, humility and sincerity. (4) His patience. (5) His freedom from economic distractions and family conflicts. (6) The suggestions from his grandfather's theory and the influence of Grant, Henslow, Sedgwick, Lyell, and Hooker which counteracted his father's resistance to his becoming a naturalist. (7) The sacredness with which he regarded his research. Darwin's life was characterized by a long continued anxiety neurosis which "was characterized by inability to adjust to excitement, anticipations, changes of heat or cold, cardiac palpitation and vasomotor flushing, indigestion, nausea, vomiting, violent tremors, insomnia, persistent thoughts, inability to criticize, or to endure social contact or worry." Kempf attributes this neurosis to Darwin's complete "submission to his father whereby he deprived himself of all channels of self-assertion in his relations with his father or anything that pertained to him." This submission led to his becoming an invalid rather than a paranoiac. Kempf describes the situation as follows:

"His search for the secrets of nature and his mother's love would then have become hopelessly aborted by hate. Through renunciation of all envy and all competitive interests in life, such as ambition for priority, and the unreserved acceptance of his father's word and wisdom, Darwin, by adroitly selecting diversions, succeeded in keeping suppressed all disconcerting affective reactions, with no more inconvenience than that of producing nutritional disturbances, uncomfortable cardiac and vasomotor reactions, vertigo and insomnia." P. 250.

Recent studies of historic personalities are those of Anderson (1), Moxon (32), Bain (2), and Hermann (20). The first is a study of the psychopathology of three Biblical characters: Jacob, David and Paul. The second paper presents the conclusions of a study of the libido of Nietzsche. Bain's study is an attempt to explain the "nervous breakdown" and other neurotic symptoms of Herbert Spencer. Bain believes that Spencer, like many men of genius was "neurally unstable," a characterization which he explains as follows:

"This is what I mean by saying the genius is often 'neurally unstable.' He is extremely sensitive to stimuli; he is capable of rapid, accurate, retentive responses; in a given time, he has many more experiences than an ordinary person, and, because of his neuromuscular constitution, they mean much more to him. He has a higher metabolic rate than normal people; he can release and direct effectively much more nervous energy than they. In short, he is a better thinking machine—a very delicately adjusted, marvelously complex hairspring and hairtrigger sort of mechanism. Hence, the genius is in greater danger of functional disorders than the ordinary individual. It is the difference between a Swiss watch and a sundial." P. 37.

Bain believes that a frustrated love affair with George Eliot is the explanation of Spencer's "nervous breakdown." He summarizes his study as follows:

"Briefly, I have depicted a man of neurally unstable ancestry, characterized by the "only child psychosis," with its attendant egocentric "flight from reality"; proud and imperious, utterly shielded from amorous relations with women. He fell in love with George Eliot, the first, and possibly only, woman with whom he ever came into intimate social and personal contact. His suit was rejected in favor of his best friend. He suffered a nervous shock which shattered his health, threatened his mind, and from which he only gradually and never completely recovered. . . . His was essentially a frustrated life, temperamentally predisposed to sorrow, and socially defined to inadequacy and futility. The extreme individualism of his philosophy, so inconsistent with its general implications, is the natural psychological result of his inherited neural instability, his "only childness" and his unnatural sex life—three factors which prevented the achievement of these socialized attitudes which usually develop in a normal life." Pp. 54-55.

The study of Hermann deals with the life and philosophy of Fechner from the point of view of analytical psychology. Mention may be made to Pruette's study of Poe (35), Clark's study of Alexander the Great (11), and Hitschmann's study of Gottfried Keller (23).

These studies of the genius—insofar as the "great" personages of history *are* geniuses—seem to point to the conclusion that psychopathy or neurotic tendencies are frequent components in the personality make-up of the genius. The study of Bain, quoted above, clearly indicates this point of view, and the characterization of history by Barnes as the collective sublimation of the neurotics and psychotics of history, implies it. This conception receives a definite statement in the following quotation from Frink (15):

"The very normal people who have no trouble in adjusting themselves to their environment, are as a rule too sleek in their own contentment to fight hard for any radical changes, or even to take much interest in seeking such changes made. To lead and carry through successfully some new movement or reform, a person requires the constant stimulus of a chronic discontent (at least it often seems so) and this in a certain number of instances is surely of neurotic origin and signifies an imperfect adaptation of that individual to his environment. Genius and neurosis are perhaps never very far apart, and in many instances are expressions of the same tendency." P. 136.

If this point of view is accepted, the study of the psychopathological manifestations of genius (that is, of those geniuses who have become *eminent*) becomes a problem of first rate importance from the point of view of historical interpretation. This is especially true when these manifestations have taken the form of philosophies, policies or artistic products which have molded the course of events.

The necessity and significance of such analysis will probably be granted, but the postulates from which it is to proceed will be subject to controversy. It has already been indicated that those who have addressed themselves to these problems seem to have found the somewhat esoteric concepts of psychoanalysis most useful. Whether it is a certain resistance to these psychoanalytic hypotheses, or to a certain scientific apathy towards psycho-historical problems, it is notable that the names associated with these studies are not those of the academic psychologists.

Whatever set of postulates are ultimately established, it cannot be denied that a new school of biographical writing and interpretation is coming into being. The large number of so-called "psychological" biographies which have been written in recent years (of which no review has been attempted here) are evidence of this as are the studies of historical personalities which have been reviewed in the present paper. These psychological interpretations suggest a modification of the canons of biographical technique both as regards materials collected and method of interpretation.

The type of material on which the "new" interpretive biography is to be based is frequently of the sort which tenderminded literary executors and biographers of an older school have suppressed as irrelevant or at least in "bad taste." From the point of view of scientific interpretation and clinical methodology nothing is irrelevant in evaluating personality. Some of the grounds for scientific caution have already been pointed out; it is admitted that a very heavy burden is placed on interpretative insight. But modern pathopsychology is nothing if not interpretative.

The mere application of vague and more or less mystical phrases and catch words to historical personalities is not interpretation, but the study of the individual's environment and major reaction patterns insofar as data are available would seem to be of significance in the understanding of those personalities who have played a major rôle in history. Catlin (6) after pointing out the danger in the use of such concepts as that of "instincts" and the "unconscious" as drives to action, makes the point that the use of these terms cannot lead to greater misinterpretations than the assumption of a guiding "intelligence" as an explanation of conduct. He says:

"It is probable that the present condition of our psychological knowledge will admit of no greater exactitude than the construction of a few hypotheses based on these major probabilities of human action. Indubitably so-called "instinctive response" is uncertain; undubitably chance has its place in deciding the fashion of action. It would certainly be a delusion to entertain the hope that we are yet in a position to predict detailed action by noting "influences," after the fashion of the astrologers. Innumerable accidents may deflect the course of events when there is anything approaching an equilibrium between the directive forces. . . . But be human nature as little guided by "intelligent self-interest" as one may choose to maintain, there is no objection to assuming motive and method,

and to positing hypothetically some one or few dominant motives, as the starting-point for experiment." P. 127.

Studies of the type reviewed in the present paper suggest that the following classes of material should yield information of especial value to the psychological interpretation of historical personalities:

(1) All types of autobiographical material; letters, diaries, authenticated conversations, etc. From the point of view of modern psychopathology *nothing* of this type is insignificant or irrelevant in the interpretation of the personality make-up. Of particular importance are autobiographical materials of early childhood and adolescence.

(2) The literary and artistic output of the individual. These are studied as objective data.

(3) The references and observations of contemporaries, especially parents, relatives and friends (and enemies!). These must be interpreted in the light of the bias of the individuals reporting them.

(4) The childhood and adolescent environment of the individual (environment is here used in the wide sense as referring to home, family, friends, etc.).

(5) The interests of the individual as revealed by his major activities.

These are the data of the new psychobiography. The interpretation of these data does not have for its aim the idealizing of the individual but is concerned with a critical examination of his personality with a view to understanding his activities. It is a field in which the professional psychologist might expect to make significant contributions. Catlin points out the danger of the "rash adoption of psychological contributions" in the present "immature state" of psychology. Catlin believes that in interpreting historical data we must borrow much from psychology but "it is also prudent to borrow, not dogmas, but experimental hypotheses which the history of political theory indicates that men of genius have used, with no small success but perhaps not with sufficient prudence, to explain History in the past."

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A GENERAL REVIEW OF THE LITERATURE ON HYPNOTISM

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The last review of the literature was made by H. C. McComas (1) in this journal, 1917, 14, 243-245, and consisted of ten references to materials published between 1911 and 1914. In this journal, also, 1921, 18, 366-375, C. H. Town (2) summarized the work on suggestion and gave a bibliography of 43 references, many of them to hypnotism. The present review of the literature is confined for the most part to the books and articles appearing between January, 1920 and December, 1925. It is supplementary to, and more general than, one published by the author in the *PSYCHOLOGICAL BULLETIN*, 1926, 23, 504-523 (3). During the six years covered herein very few articles about hypnotism have appeared in France, a good many in the United States, perhaps only slightly fewer in England than in this country, and more in Germany than in all the other countries of the world put together.

"There is no hypnotism; there is only suggestion"—Bernheim. Hypnotism is the outstanding example of the effects of suggestion, not only in the sense that the phenomena of any given hypnosis depend on the suggestions which the subject accepts, but in the more far-reaching aspect that the statements of preceding hypnotists (or of those, at least, whose statements have not on the face of them been fantastic), written down in books and articles, have by cumulative effect formed the opinions and molded the expectations of the person who himself undertakes to hypnotize. Whereupon, this person elicits from his subjects that type of reactions which he had been led to believe genuine hypnotic phenomena. Thus are explained the great divergences in results of various hypnotists: they have read different books. But thus, also, is explained the popular conception that there is an entity, a body of phenomena, an hypnotic consciousness, which either does or does not show, spontaneously, certain bodily and mental traits. Only by seeing that all the so-called phenomena of hypnosis are artifacts of the beliefs of both the hypnotist and the subject—consequently of the methods of the former

and the autosuggestions of the latter—can the glaring discrepancies in the literature of hypnotism be explained. This review tries to present faithfully the present confused and contradictory state of opinions on hypnotism and to point out certain clarifying elements in the situation.

Phenomena of Hypnosis. In spite of the fact that many experimenters still think that there are certain phenomena inherent in the state, alleged criteria of hypnosis, it is noteworthy that there is no agreement as to what are the essential outward signs of hypnosis.

Catalepsy. McDougall (4), Kauffmann (5), and Schilder (6), find catalepsy appearing spontaneously at certain stages; whereas the present author (7), agreeable with the results of Bramwell (8) and others, observed it only when it was induced either by verbal suggestion or by molding of the limbs without other suggestion.

Post-Hypnotic Amnesia. That post-hypnotic amnesia is not an essential characteristic of any stage of hypnosis is made clear from the unanimity of writers past and present, in finding that hypnotic suggestions to remember the proceedings of even somnambulistic séances result in remembrance of what has taken place in hypnosis. However, Bramwell (9), Hadfield (10), Sidis (11), Kronfeld (12), Mosse (13), Wells (14), Kauffmann (15), perhaps McDougall (16), and many others consider post-hypnotic amnesia the best single standard for judging deep hypnosis. On the other hand, McDougall (17), objects to denying the name hypnosis to states lacking post-hypnotic amnesia; and Dattner (18) says that judging post-hypnotic amnesia is a hopeless task. Many older authors, among them Bernheim (19), Liébéault, and Forel (20) deny the necessity of amnesia for the validity of any degree of hypnosis. Recently Schultz (21) and Vorkastner (22) report the same conclusion. Some of the late work on this phase of the subject is that of measuring carefully the amount of amnesia under different conditions. Hull (23) reports that, "It was found the relearning amnesia resulting from deep hypnosis averaged only about 50 per cent complete," (meaning possibly, that the saving in relearning after hypnosis showed that the post-hypnotic amnesia was only 50 per cent complete.) Schilder (24) found even less amnesia under such conditions. No post-hypnotic amnesia resulted from hypnosis induced in paralytics with the aid of narcotics. (Hartmann and Schilder, 25) The present author (26) found that even when recall and recognition were absent there was always a saving in relearning, ar

this in spite of explicit instructions in hypnosis to forget. In another set of experiments the author (27) ascertained that, when subjects had given themselves previous autosuggestions to remember what was to take place in hypnosis, they thereupon manifested no appreciable amnesia. It seems possible that post-hypnotic amnesia, which is really more lack of recall than loss of memory, is due to the subject's attitude, which is assumed directly at the verbal suggestion of the hypnotist, or indirectly from all that he has learned of hypnotism. If he is told to go to sleep, he is prepared to forget all that happens—a point made frequently, *e.g.*, by McDougall (28). In the popular mind ideas of amnesia and hypnosis are almost inseparable. When the subject first comes to be hypnotized, therefore, he expects to be amnesic if he "goes under" at all; and even if he comes without such expectations the operator, in the course of hypnotizing him, if not before, will load him down with this and many other traditional ideas. Wells (29), who emphasizes post-hypnotic amnesia as a criterion of deep hypnosis, shows by his instructions in inducing "waking hypnosis" that he suggests the post-hypnotic amnesia, which he uses as a means of equating the depth of waking hypnosis and somnambulism.

Rapport. Bramwell (30) agreeing with Braid and Moll, says, ". . . the condition is always an apparent—never a real one." Some arguments for considering rapport an artifact of suggestion are given in detail in the author's (31) papers previously referred to; and in addition, experimental results reported showing that subjects by prior autosuggestion can exhibit whatever degree of rapport they decided upon, ranging all the way from being out of rapport with the operator on only one suggestion to being out of rapport during the whole séance, and responding only to another person's raps. Comparable phenomena, but not so interpreted by those reporting them, appear in the way Haupt's (32) subjects remain in hypnosis as long as the operator's hands remain on their forehead and neck, in spite of the operator's trying to wake them by verbal commands; and in Morgan's (33) and Travis' (34) subjects, who in reverie were in rapport with certain mechanical sounds. However, most recent authors consider rapport the one *sine qua non* of hypnosis. McDougall (35) says "*rapport* is of the essence of suggestion"; Kronfeld (36) asserts, as Bernheim (37) did long ago, that except *rapport* there is no differentiation between hypnosis and sleep. The Freudians, *e.g.*, Jones (38), consider the fixations resulting from

rapport one of the chief objections to hypnosis as a method of treatment. Many psychologists, assuming that *rapport* is more a cause than a result of suggestion, base their theories of hypnosis upon it; consequently, *rapport* will come up later in the discussion of the nature of hypnosis.

Dissociative Phenomena. These traits are varied: *rapport*, contractures, functional paralyses, amnesias, hallucinations, illusions, anesthetics, analgesia, automatisms, etc. All these phenomena seem to represent what the subject will do at the operator's suggestion, if there is no good reason or flighty caprice why he should not. For good descriptions of the hypnotic consciousness Prince (39) and Burnett (40) may be consulted. But that even in this regard the hypnotic state is a stable, uniform condition is denied by those who have experimented with it most. Thus Prince (41): "The states of hypnosis are as varied and multiform as there are possible components of the psychologic and physiologic components of the personality."

CAN HYPNOSIS AUGMENT FUNCTIONS LINKED UP WITH THE CENTRAL NERVOUS SYSTEM?

So closely connected is the very act of measuring the hypnotized person's abilities, with the suggestions that he is to do as well as he can that there is no use debating whether the induction of hypnosis *ipso facto* increases the powers of the subject. Nevertheless, many authors assert that hypnosis is spontaneously accompanied by an increase in sensitivity: as do Bleuler (42), Judd (43), Ewer (44).

Such has been the hypnotic tradition until very recently—a hang-over from the days when the subject was supposed to be magnetized by the hypnotist; as Alrutz (45), Boirac (46), Tischner (47), and Kindborg (48) still suppose him to be, and, consequently, find in him powers inexplicable by the theory of suggestion.

As to the main question, the majority of the writers keep up the old tradition that by suggestion in hypnosis sharp general or specific increases in ability can be effected. Benussi (49) makes one of the five values of hypnosis for psychological experimentation the possibility of increasing sensitivity in the direction of intensity or clearness; Burnett (50) interpreted his results as showing increased ability in doing tasks requiring fluctuating attention; Travis (51) bases his theory as to the susceptibility of persons to opposed forms of insanity on the idea that in hypnosis the auditory thresholds are

lowered. According to Lenk (52) memory for the present events is much increased in hypnosis, both in the ease of learning and in the sureness of retention. Other workers who found increased powers in hypnosis are referred to in a former article (53). Opposed to this popular idea of hypnosis stands McDougall (54) who says, "I have, therefore, always been skeptical of the tall stories of hypnotic perceptions, or hyperesthesia, and I have never found evidence of any considerable extension of power along this line." Kronfeld (55) points out that the so-called hypersensitivity is merely a hyperactivity to a stimulus, or a stimulus-difference which the subject could sense in waking, *e.g.*, of warmth or vision. "One can not increase the visual acuity of the hypnotized person, in spite of the phantastic reports which have been circulated" (Kronfeld). Dattner and John (18) go so far as to say, on the basis of some experimentation with the electric brush, that their subjects could endure pain about as well out of hypnosis as in it, either by aid of making suggestions or by the force of the subject's will.

Perhaps some functions may be increased in hypnosis; for example, Bier (56) had a girl hold out her arm straight for seven hours without feeling pain or fatigue. Nicholson (57) found fatigue very much less in hypnosis than in waking, at working with an ergograph. The present author (58) found that resistance to fatigue and the memory for long past events were the only functions among many tested that could be appreciably increased in even the deepest hypnosis. The modicum of truth in the conception of greatly heightened voluntary powers in hypnosis is that the person, as Kantor (59) says, "may be able to perform actions of which he ordinarily believes himself incapable."

All other alleged increases may be adequately explained by the lack of scientific control in the hypnotic session; gross under-estimation of normal waking abilities (*cf.* Gault's (60) results in testing speech discrimination on the palm of the hand); lack of bona fide and equivalent testing with sufficient motives of the same persons in waking; failure to take chance factors into account in meager experimentation; and use of neurotic subjects, who can do their best only when their powers are unified and directed by the hypnotist. Heretofore, the fact of wide variations in the successive performances of a given task by a normal subject, even in waking life, has not been taken into account in interpreting the results of published investigations of hypnosis.

Time Appreciation. Although the recorded accomplishments from certain tests in the appreciation of time may be greater than that shown in waking [Bramwell (61) gives a long discussion of the subject; McDougall (62) also thinks the hypnotic performance is much better than the normal], it seems from Hooper's (63) observations that the method used is nothing esoteric, because from his accounts it is clear that his subjects did compute the time. Ehrenwald (64), although his technique in the two states was not strictly comparable, found no great difference in his results nor in the methods used by the subjects (except in the case of one subject).

Criteria of Hypnosis. Although McDougall, Kauffmann, Wells, Bleuler, and many others still think of hypnosis as a fairly unified state with somewhat definite characteristics (a certain type of breathing, the presence of analgesia, and a fixed inward and upward position of the eyeballs, rapport, amnesia, etc.), it is likely that Dattner and John (18) following Babinski, are right in saying that there are no objective criteria of the genuineness of hypnosis. Dattner goes on to say that the sole reliance is the integrity of the hypnotizer. It is perhaps truer to say that since the subject can simulate every objective trait of hypnosis, the only criterion is the integrity of the subject himself. If the subject says that he performed actions in hypnosis without knowing that he was doing so, or without being able to keep from doing so, or even that he felt different while doing so from the way he ordinarily feels in waking, then he may well be supposed to have been in that degree of hypnosis corresponding to the unusualness of the suggestions he reacted to.

Stages of Hypnosis. Most present writers adopt one or another of the traditional classifications of the stages of hypnosis, usually based on the depth of hypnosis. Bramwell gives several of these classifications. More current interest attaches to the question whether light and deep hypnosis are qualitatively different, so that light hypnosis does not go over into deep hypnosis even with repeated trials, as Haupt (32) asserts, and the reviewer thinks; or whether with further suggestions and training the light would go over into deep, as seems to be the idea of most workers, probably also of McDougall (65) and Kronfeld (66), who make no use of the classical stages of hypnosis, but who describe a gradual shading of light into deep hypnosis. Kauffmann (67) by an ingenious chart made up of concentric circles tries to represent the changes in consciousness as a person goes from ordinary waking to the deepest stage of sleep in

hypnosis. Schultz (21) divides hypnotic stages on the basis of "entirely uninfluenced optical self-observation." Wells (68) emphasizes a distinction between sleeping and waking hypnosis, which is analogous to Braid's (69) alert stage of deep hypnosis and deep stage of deep hypnosis. Whether hypnosis is a form of sleep is still a bootless question. Coriat (70) neatly marshals the differences between sleep and hypnosis, but he shows, as does Sidis (71), the affinities of the hypnagogic state for both sleep and hypnosis. Pavlov (72) as a result of some experimentation, calls hypnosis a state of partial inhibition of the cortex; whereas sleep is a total inhibition of the cortex. The relation of the two states is indicated by the fact that Johnston and Washein (73) found that "The gastric secretion curve obtained with the empty stomach in sleep is almost identical with that obtained with the empty stomach in hypnosis." Schilder (74), like several others, thinks the sleep center in the brain is affected in hypnosis.

Technique of Hypnotizing. The neo-mesmerists use magnetic passes and sometimes magnetized objects in inducing hypnosis. Schultz (75), Wells (76), and Wingfield (77) stress the importance of obtaining the coöperation of the subject by preliminary explanation of the process of being hypnotized. Haupt's (78) surprise at discovering his "Stirn- und Nachen-hand method," mentioned above, is not shared by Kindborg (48), who says that he has long been familiar with that method; nor by Densow (79), who puts that method among the mesmeric passes. The experiments of the reviewer, already referred to, make probable that by means of prior autosuggestions the subjects may be in *rappont* with any set of stimuli whatever, and may show whatever phenomena, within the limits of their power, they have been led to expect. Haupt (80) and McDougall (81) make mention of the two possible tones to use in hypnotizing, the persuasive and the commanding; and the latter blames the domineering method for the poor success sometimes ascribed to hypnotic treatment of neurotics.

A method of hypnotizing long ago used by Esdaile and Braid (82), and even by their predecessor, Jastrow (83), but recently made much of by Friedländer (84), Kauffmann (85), Schilder (86), and other Germans especially, is that of using a greater or less dosage of narcotics to reinforce the suggestion of sleep. Friedländer's term is "Hypno-Narkose," Kauffmann's is "Narkohypnose," Schilder's is "Schlafmittelhypnose." This matter comes up again under medical uses of hypnosis.

Moral and Legal Aspects of Hypnotism. In many places in Germany public demonstrations of hypnosis are prohibited by law, and the physicians are generally committed to keeping hypnotizing out of the hands of the layman (meaning, usually, everybody but themselves) *c.f.*, Seeling (87). In 1916 the French Government forbade the use of hypnosis in military hospitals (88), and in Belgium, where public demonstrations are not allowed, no persons under eighteen may be hypnotized for any cause (89).

The moral dangers of hypnosis are either minimized or denied by the following: Hollander (90), Kantor (91), Schilder (92). Huffner (93) believes that the subject carries out the suggestions only so far as he wishes to do so. According to Vorkastner (22), in all the literature there are only 20 cases of moral wrong done in hypnosis. Lowenfeld (94) declares that up to 1922 there was not a single well authenticated case of severe crime perpetrated through hypnosis. On the other hand, Schrenck-Notzing (89) thinks hypnosis can be used for criminal purposes; and, although Friedländer (95) considers it unfitted for most criminal purposes, he asserts that it can be used for sex offenses. McDougall (96), Lowenfeld (94), and Schilder (92) point out the staginess of the hypnotic experimentation on crime, and contend that the nearer the test approaches verisimilitude, the more certain the subject is to reject the criminal suggestion. Those who consider hypnosis morally dangerous do so on the ground of the possibility of breaking down unconscious resistances, which is as easy to do as to strengthen the moral fiber in hypnosis *e.g.*, Kindborg (97); because of the narrowing of consciousness, Kogerer (98); because loves makes blind, Kauffmann (99); because indirect suggestions can prepare the subject to commit the offense without arousing his objections to it, Hirsch (100). Few except the Freudians consider hypnosis in the hands of a competent operator dangerous to health; and these do so on the ground that it "seeks to strengthen the patient's narcissism"—Jones (101). However, Brown (102), holding to the idea of Charcot that persons who are hypnotizable are *ipso facto* potential hystericals, objects to its use except in reassociating persons already in a dissociated state, just on account of its tendency to accentuate the abnormal state of the individual susceptible to it.

In addition to mere reports of bad effects from lay-hypnotizing, appearing by the score in German psychological and medical journals, in the past few years, Schultz (103) published in 1922 the results of

a questionnaire participated in by 146 physicians, showing, besides minor disturbances, 100 "recht ernste" injuries to health which had resulted within three years; and Siemerling (104), gives in detail the literature in regard to injuries to health through hypnosis. After all cases and arguments have been considered, it seems probable that the dangers of hypnosis, for all but abnormal subjects, consist in inexperienced handling by the hypnotist, or in the belief of the subject that he may be influenced wrongly if he should submit himself to hypnosis. Perhaps the wisest thing on record in this regard is Baudoin's (105) statement, "Can persons be constrained by hypnotism to the performance of a bad action? . . . Yes, if the subject imagines this to be possible. . . . Books that point out the dangers of hypnotism are far more dangerous than hypnotism itself."

The consensus of opinion, with a great many men contributing to the literature on the subject, is that hypnosis is of no value in courts of law. The reason, of course, is that the subject can lie as glibly in hypnosis as in waking—Jacobi (106), Vorkastner (22), Gruhle (107), Kindborg (97); and that the ideas of the hypnotist may color the testimony of the subject under hypnosis—Raecke (108). Sloan (109) has recently treated of hypnosis as a defense to crime.

So-Called Animal Hypnotism. The best general statement of the facts in this field, with many references and a large bibliography, is the chapter in Hemplemann's (110) recent work on animal psychology. Mangold (111), who is one of the most prolific researchers in this matter, and Eckstein (112) differentiate sharply between human and animal hypnosis in that the former demands a psychic stimulus; the latter, mechanical restraint; in animal hypnosis suggestion, *rappport*, the deep stages of hypnosis, and movements are lacking—Mangold (112). Hoffman (113), working with insects, found animal hypnosis characterized by: (1) Complete inactivity, (2) Stopping of efforts to right itself, (3) Lowering of stimulability and sensitivity, (4) Cataleptic condition, and (5) Strongly marked analgesia. Although thinking that there is a state property designated hypnosis, for example in the hen upon letting her gaze at a shining object and then gently closing her eyes from above, Erhard (114) differentiates animal and human hypnosis on seven counts, two of which are the state of musculature (with animals it is usually a state of hypertonicity) and the fact that with repeated trials the state of akinesis in animals is harder to induce. Rehn (115) disagrees with Erhard

on the state of musculature in animal hypnosis, finding, rather, lowered tonicity. Haberland (116) and Mangold (117), who mention many others of like opinion, refuse the name hypnosis to this state in animals, noting it is not the seizing of the animal that turns the trick, but the cautious letting it loose. They prefer to think it merely putting out of business the Lagekorrektions-reflex (reflex for righting itself) through an abnormal position of the body. All in all, agreeable with the results of these and other experimenters, Schaefer for one (118), with few dissenters except among the neo-mesmerists Kindborg (119), it might be better to reserve "hypnosis" for humans and speak of catalepsy or akinesis in animals; as do Szymanski (120) and Spiegel and Goldbloom (121).

ORGANIC EFFECTS OF HYPNOSIS

Formation of Blisters. Although some late writers are positive that blister forming and kindred phenomena can be elicited in hypnosis, *e.g.*, Hadfield (122), Stern (123), Bunnemann (124), and McDougall (125); others are doubtful of the type of control so far maintained in such experiments, as Bramwell (126); others, again, report equally clear cases taking place in the waking state, *e.g.*, Baudouin (127), Dattner and John (18), Boirac (128), and Jacobi (129); whereas, still others point out the rarity of such cases and the special type of nervous constitution involved, as McDougall (125), Kronfeld (130). Good bibliographies are supplied by Bunnemann, Stern with 92 items, and Jacobi.

Other Organic Effects. According to the following critical experimenters, among many that could be cited, the hypnotic state as such brings on no marked changes in the organic system: Astruck (131), working on heart and lung activity; Dorcus (132), Georgi (133), Laudenheimer (134), Talbert (135), all on blood pressure; Luckhardt and Johnston (136), gastric secretions; Marcus and Sahlgren (137), blood sugar. However, all of the above except Dorcus find definite changes in hypnosis through the use of proper suggestions; as, also, do Heyer and Grote (138), 100-116 per cent increase of P_2O_5 and a large increase of the "Ca-secretion"; Berger (139), skin temperature; Heilig and Hoff (140), digestion and kidney-secretion; Eichelberg (141), fever generated and eliminated. These all report definite laboratory findings, with control conditions, such as keeping the subject from becoming active. Sample facts in these reports are: The acidity of the gastric secretions is equally as great

when a test meal is merely suggested to the hypnotized subject as when a test meal is actually ingested (Luckhardt and Johnston, 136); through the restraining suggestion of hypnosis clear weakening of the effect of adrenalin, pilocarpin and atropin can be brought about (Marcus and Sahlgren, 137). However, in a very neat piece of research, Dorcus (132) found that the belief (apparently, though, without a positive suggestion to that effect) that one was smoking did not bring on the physiological effects that actual smoking induces.

Nevertheless, in this type of investigation, as in all matters of alleged greater abilities in hypnosis, before ultimate conclusions are drawn the comparison should be made, not merely with the same subject in the waking state, but with the same subject in waking, responding to the same suggestions given by the same experimenter under identical conditions with the same interest on the part of both the subject and the experimenter to do all that they can. That this has not been done always, if ever, goes without saying. The results as found in the literature come about through inducing in the hypnotic subject the appropriate feeling or emotion. That this can be done in many cases as well outside of hypnosis as inside is illustrated by Luckhardt and Johnston (136) finding gastric secretions after appropriate waking suggestions just about as they were under hypnosis; and by the occurrence of stigmata from psychic causes in waking, as Baudouin reports (127). But even so, such suggestions for arousing emotions can be taken so much more naturally, so to speak, in hypnosis than in waking. As a consequence of this fact hypnosis with many medical men is still, and anew, being used for disorders having an affective basis. This matter will be dealt with next.

Hypnotism in Medicine. American physicians are either ignorant of the practical uses of hypnosis or prejudiced against its use, or both. With few exceptions, such as Prince (39), and Sidis (71), who, however, uses hypnoidal states, there is singular apathy. For example, Clendenning (142) says: "As a method of therapy it is no longer greatly used. It is unsafe and unsatisfactory." Contrast this with the statement of an English physician, Eder (143), that "91.5 per cent of cases of war shock were cured by this method, and 8.5 per cent improved"; and with this from a German, Schultz (144), "It must be summarized on the authority of a great many authorities (I name only Kraepelin, Obersteiner, Oppenheim, Binswanger, von Leyden, Bleuler, Aschaffenburg): In clear cases hypnotism is important as a critical, technical, thoroughly objection-

less therapeutic and diagnostic agent in general psychotherapy." This statement occurring in Vogt's great handbook of therapy of nervous diseases, which devotes 60 pages to hypnotic therapy, is typical of the opinions of many of the best German psychiatrists. Thus Kronfeld's *Psychotherapy* (145), gives 85 pages to hypnotism; and Oppenheim's monumental two-volume *Lehrbuch* (146), seventh edition, treats it very fully.

In the literature of the subject, mainly German, the following uses stand out:

1. *As a means of diagnosis.* Vallejo (147) uses it as a means of differentiating the pathological feigner of disease, whose symptoms are modifiable in hypnosis, from the organic sufferers, whose symptoms are not. Nonne (148) and Loewenfeld (94) recommend it for distinguishing functional and organic diseases; Friedlander (84), for telling whether or not an operation is needed. Breukink (149) uses it to differentiate curable from incurable psychoses, and hysterical from progressive paralysis. Travis (150) used it indirectly as a means of diagnosing tendencies toward schizophrenoses and psychoneuroses.

2. *As a method of treatment.* All possible uses of it are reported. It is indicated in treating all kinds of hystericals, but not in neurasthenia, hypochondria, or obsessions—Neutra (151); in the psychoneuroses, if the personality of doctor and patient are suitable—Friedländer (84); in clearing up malignant repressed and suppressed emotional conditions by a kind of hypnoanalysis—Hadfield (152) and McDougall's term, used also by Taylor (153); Karup (154), Mosse (13) with children, Breukink's (149) *Karthartic* method; as a time-saver in a kind of psychoanalysis, Brown (155), Loewenfeld (156), Steinrück (157); to alleviate old cases of acute suffering, thus dispensing wholly or partly with opiates, Koster (158). Its traditional use in alcoholism, morphinism, sex perversions, etc., are reaffirmed by present day writers. The claims of Coue and Baudouin for autosuggestion are well known.

In Germany literally hundreds of cases of painless child-birth are reported as having taken place by the use of pre-confinement and labor suggestions given in hypnosis, in its pure form or superinduced by small amounts of opiates, Kirstein (159), Heberer (160), Hartmann (161), von Oettingen (162). From published reports it seems that this is at present a popular method of delivery at the Heidelberg

clinic (159). The limitations of this method in gynecology have been pointed out by Franke (163), among others.

3. *In operations.* There is a concerted movement in Germany to make hypnotic suggestion a part of the technique of operating. By giving suggestions preparing the patient mentally for the operation, inducing sleep and analgesia while the patient is going under ether, while he is being operated on, and even afterward; considerably less ether or gas would be used (Friedländer says a third less), thus making possible operations on those with weak hearts, especially old persons, Liegner (164); the excitement and struggling of initial etherization and the nausea on awaking would be largely eliminated; a long post-operation sleep could be secured; and finally the dangers of drug addiction would be greatly lessened. Friedländer (84) and Kaufmann make most of these points in their books.

Although in Germany, as elsewhere, there are those who point out the limitations of hypnosis in medicine, and the over-emphasis it has lately received in that country, *e.g.*, Hirschclaff (166), it is probable that hypnotic treatment will remain an acceptable method at least in Germany, now that reputable physicians have taken it out of the hands of the quacks and are using it themselves, and especially since it has got into the medical textbooks.

OTHER USES OF HYPNOSIS

Wells (167) has lately shown how hypnosis can be used for class-room purposes in courses in abnormal psychology. Miss Mühl (168) suggests another possible use of hypnosis: if the secondary personality has certain unrealized abilities and talents, "Would it not be worth while to deliberately break up the synthesis of the mental states and re-synthesize the subject into a more culturally successful and economically efficient individual by means of either hypnotism or analysis, or both combined?"

SUSCEPTIBILITY TO HYPNOSIS

Serog (169) says that 100 per cent of healthy and sound men can be made somnambulistic; on the contrary, Brown (102) and Ferenczi (170) find hypnotizability correlated with hysterical traits. According to McDougall (171) suggestibility varies directly with the strength of the submissive instinct and the tendency to extroversion. Prideau (172) states that suggestibility is strongest in children, egoists, persons with contiguous type of association. Overdone upbringing

increases susceptibility according to Kindborg. Friedrichs (173) correlates hypnotizability and asthenic traits; Kretschmer (173), hypnotizability and schizothymic traits. Prince (41) and Haupt (174) note that hypnotizability varies in the same individual from time to time in the depth of hypnosis induced, and even whether it can be induced at all. Estimates of the percentage of the population that can be hypnotized vary all the way from 10-20 per cent up to 100 per cent. Many figures in this regard are given by Bramwell. The estimates differ according to whether the operator lets from one to three trials at hypnotizing at different sessions tell the tale, or whether he hangs on session after session, never giving up. Kauffmann (175) surreptitiously uses narcotics in early sessions with refractory subjects in order to make them susceptible later on without it.

NATURE OF HYPNOSIS

Theories of hypnosis are referred to in a former article (7). In addition to what is written there it should be said that the affective basis of hypnosis, now so widely used for explanatory purposes, was mentioned some time ago, among others by Bleuler (177) in 1906 and Münsterberg (178) in 1909.

Important as a prolegomenon for any theory of hypnosis, is one's conception of the relation of hypnosis and auto-hypnosis, *i.e.*, of hetero-suggestion and auto-suggestion. McDougall (179) in seeking to explain all so-called auto-suggestion by hetero-suggestion is ignoring many facts. As Kantor says, "Autohypnotic phenomena are just as well authenticated as interpersonal ones" (180). Brown (183) points out what many others have noted—Serog (169), Schilder (181), Bramwell (182); "In cases of deep hypnosis, . . . when a patient's suggestibility seems sometimes to be diminished rather than increased, it may well be that it is merely a diminution of hetero-suggestibility; auto-suggestibility may be intensified" (183). Or as Baudouin says, "Suggestibility seems now increased now diminished by hypnosis" (184). The Freudians are inclined to consider auto-suggestion more basic than hetero-suggestion, in as-much as narcissism is more fundamental than concentration on the Father-imago (185). "Abstraction, reverie, and brown study are identical in every way with the stage of light hypnosis," says Prince (41) in stating his conviction that the subjective elements are more important than the interpersonal influences.

Positing the reinstating of some primitive archaic type of thought

and action during hypnosis has become a favorite method of explanation: *e.g.*, Schilder's idea that it brings on a regression to an older undifferentiated state (186), Sopp's "Glaubigkeit" (187), Friedrich's (173) faith attitude.

The reviewer's experimentation (188), in which at prior auto-suggestion the subjects counteracted the hypnotic commands in matters of indifference, and the general finding that subjects break the *rappport* when further acceptance of suggestions would bring on shame or would simply be moderately distasteful, tend to show that some personalistic theory, based on the omnipotence of thought, Prince (41), is more helpful than any theory based on the priority of hetero-suggestion.

Although hypnosis is a state of coöperation, Rosenow (189), in which the subject will do with verisimilitude what he cannot do in waking life without pretending, Young (190), still it is not in any real sense simulation, as Babinski (191) seems to think. Nearly all experimenters draw this conclusion on the basis of reports from thousands of honest men who have been hypnotized.

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THE BEHAVIORIST'S PRAYER

Thou Cosmic Movement Continuum! we petition thee to lend auditory discriminations to these our laryngeal contractions. Lower the threshold of thy sensory discriminations so that our neuromuscular-glandular activities do not expend themselves as wasted reflexes. May the alterations in the configurations of our pitifully finite electron-proton aggregates find sympathetic resonance in thy visual receptors.

May the threefold division of our receptor-conductor-effector mechanisms receive to the full the beneficence of thy cosmic bounty. Bathe our receptors in thy irradiations of energy-flux, so that our cerebro-spinal neurones are ever dynamogenic. May our cortical pathways always keep vigilance over our lower reflexes. And we humbly ask thee that our endocrines may not hypertrophy, or that our hormones become toxic. Preserve us, we pray, so that through all our energy transformation and relative motions our configurations remain symmetrical.

Also, amative Movement Continuum, may we never hang suspended in delayed reactions; and may the reciprocal innervation of antagonistic muscles never equilibrate itself so that circular reaction arcs are elicited, or too much dammed up energy accumulate. May we likewise not suffer too many inhibitions or repressions.

Again we implore thee, O Sum Total of Electron-Protons, that our inspiration-expiration ratio may ever be harmonious with our subvocal speech. Increase our opsonic index; accelerate our reaction time; and thus may we approximate perfect obedience to the energetic imperative. And though we walk through the valley of the shadow of depressed metabolism, may we secrete no useless adrenalin.

Give us this day our customary calories; forgive us our maladjustments as we overlook other loci their inadequate movements. And finally when the negative accelerations of each configuration of movements brings on senescence, and the second law of thermodynamics triumphs over our biochemical reactions, we pray, O Omnipotent, Omnipresent and Omniscient Cosmic Movement Continuum, that thou wilt receive each and every locus back into thy primordial Space-Time Bosom.

This we implore in the name of Science!

AMEN.

University of Pittsburgh.

OLIVER L. REISER

SPECIAL REVIEWS

B. BOURDON. *L'Intelligence*. Paris: Alcan. 1926. Pp. 388.

It is not easy to say to what class of readers of THE BULLETIN this excellent manual will appeal. It is essentially a synthesis from the orthodox viewpoint of the entire field of cognition. Even sensation and imagery are briefly treated in order to show their relation to the intellectual processes which are the main topic. The range may be indicated by giving some of the chapters: perception, imagination, comparison, attention, mental attitudes, association and memory, thinking, intelligence and mental aptitudes, mental work and fatigue, judgment, and reasoning. The author well justifies his prefatory statement that, although our knowledge of intellectual phenomena leaves much to be desired, still a comparison of what we know to-day with older authors shows that important progress has been made.

But the professional psychologist who has been at all interested in this field will find little new in M. Bourdon's book, and the author has not sufficiently projected himself upon his work to make it a personal document such as Titchener's lectures on the *Thought Processes* or Spearman's *Principles of Cognition*. On the other hand, although well documented, the book is not a compilation of experimental work but a summary of such work as seen by the author. Hence it is inferior as a reference work to Fröbes' *Lehrbuch der experimentelle Psychologie*, for example. In tone and treatment, the book would be an admirable orientation for a graduate student—were it not in French. For although we can, of course, drive our graduate students to monographs presenting new material, it may be questioned how many will be got to read 385 pages of even such straight-forward French as M. Bourdon gives us merely for an "orientation." 'Tis a pity, for the book is sane, reasonably catholic, and well organized.

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KÖHLER, ELSA. *Die Persönlichkeit des dreijährigen Kindes*. Psychologische Monographien Von Karl Bühler. Zweiter Band. Leipzig: Hirzel. 1926. Pp. ix+240.

This monograph presents in a long introductory statement, a

project of considerable magnitude to be completed, if all goes well, in three parts, the first of which appears in the present volume. It is hoped by the author that the completed task will make possible the formulation of laws governing the mental life of human beings, which will be as clear-cut and definite as the laws found in the exact sciences. Ultimately, it is believed, the completed study will help to reconcile biological and psychological theories and to bridge the gap now existing between biology and psychology. Thus a scientific psychology, developed along "Structuralist" lines, founded on biological, genetic and psychological facts, may take its place among the exact sciences.

It must be understood that this outlined program can only be tentative, since each part depends so fully on the outcome of preceding studies. The three parts of the research are outlined as follows:

Part I, completed in this volume, consists of numerous observations made on a single child between two and a half and three and a half years of age. This period has been selected because it has appeared to the author to present a critical period in the child's mental development and one well worthy of study. The observations are all interpreted and explained by the experimenter in the light of her knowledge of child psychology, so that there results a picture of the child's inner life corresponding to introspective results obtained with older persons. The author feels that it is possible, by this method, to ascertain the exact moment at which certain concepts appear in the course of the child's mental development. An illustration will serve to indicate one of the types of interpretation used.

A sunbeam shining on a child's fair hair makes it gleam like gold. The author, noting it, has stilled an exclamation of admiration, for pedagogical reasons, but the child's little friend, entering the room, cries out, "What beautiful hair you have!" Here the analogy is clear and the author feels justified in concluding that the mental processes in the child and the adult are alike. Thus from entirely objective data, material which is equivalent to introspection is obtained.

Part II is to verify the facts observed in Part I by a study of three-year-old children as a whole. On the basis of this further work, hypotheses suggested from the study of one child may well become laws.

Part III is to present a theoretical consideration of the work of the previous parts. Here the relationship between the various

phases of human mental development will be considered and it is expected that the biological significance of the investigation can be indicated, so that a scientific psychology developed on biological and genetic foundations will stand forth.

The dangers of so subjective a method in child psychology are obvious and are considered briefly by the author. She feels, however, that this knowledge of the child's inner life must be obtained and sees the interpretive method as the only means of obtaining it. Experimentalists and clinicians will doubtless feel very suspicious of data derived in such a manner and of conclusions based on those data. The project as a whole is a very ambitious one, and the further parts of the program will be anticipated with interest.

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KELLEY, TRUMAN LEE. *The Influence of Nurture Upon Native Differences*. New York: Macmillan. 1926. Pp. vii+49.

One of the most important problems in education and psychology is that of the relative influence of nature and nurture in the making of a man. Also there are few problems more difficult of solution than this one, since it cannot be solved until some way has been found to separate the influence of one from the influence of the other. In the opinion of many, to effect this separation is impossible. Dr. Kelley has attempted the impossible . . . and succeeded.

It is a great achievement to make a discovery of truth. It is a greater achievement to discover a method for discovering truth. Although specialists in this field might be able to mention others, only four persons occur to me as being entitled to high rank for their contribution to methods of separating the influence of nature from the influence of nurture. These are Galton, whose methods are exemplified in his study of outstanding geniuses; Woods, whose methods were employed to study monarchs; Thorndike, who made use of twins to determine the relative contribution of the two influences; and Kelley, who has just developed an exact quantitative method for measuring the relative contribution of nature and nurture.

What is Kelley's method? It is far too complex to be made clear in a paragraph. I have talked with those who feel that he has not made it entirely clear in fifty pages. He faced and solved successively the problems involved in the elimination of the effects of (1) maturity, (2) units of measurement, (3) systematic effects

of chance, and (4) chance effects of chance, and then the problem of abstracting nurture from the combination of nurture and nature. He worked with data from three groups of pupils, namely, eight-year olds, eleven-year olds, and fourteen-year olds who were located at the grade typical for these ages. By means of involved statistical calculations based upon several assumptions, the most questionable of which appears to me to be the equality of sense units, he arrives at a measure of idiosyncrasy for each age group, *i.e.*, a measure of the average amount of unevenness among the various abilities possessed by the pupils in each age group. It is particularly important to note that he dealt with the amount of unevenness within each pupil's psychogram and then averaged these psychogrammatic idiosyncrasies. This approach to the study of nature and nurture is a novel one. Most investigators have attempted to deal with the gross variability among different pupils. Having made measures of idiosyncrasy comparable for the three age groups, and having made the influence of nature a constant for the three age groups, he was in a position to determine what changes nurture had produced in these age-group psychograms.

What does it all mean? I quote a few choice bits.

"Approximately 97 per cent of the adult difference between Arithmetic Reasoning and Spelling abilities is to be attributed to original nature."

"The data tend to support Dewey's doctrine that the young child has more individuality than the older child and that we are accomplishing by education what certain democratic educators earnestly desire—the creation of a homogeneous citizenry."

"Innately Computation is the most independent of the nine functions (Stanford Achievement Tests), but this innate independence is considerably weakened by nurture."

"Oddity in Computation ability is more quickly spotted than any other peculiarity; so that the teacher whose Procrustean creed is 'equalize, equalize' proceeds with vigor and effectiveness to the forcing-stunting task before him."

"The churchman's view of the Middle Ages, 'Oddity is an evil and must be cut off,' is the schoolman's view of today."

"On the whole, nurture tends to eliminate idiosyncrasy; on the whole, children are less *tabulae rasae*, less products of a common mold, than adults."

Thus does Kelley make clear what he considers the educational

implications of his investigation. Now it is possible for the reader to accept his conclusion that nurture tends, on the whole, to wipe out idiosyncrasy without accepting his strictures upon teachers for doing this. As to this, I prefer to leave Kelley to conduct his quarrel unaided by me—or unassailed.

The foregoing quotations reveal Kelley's emphasis, but it would be unfair to his position unless another quotation is given. It is, "For the purpose of creating literary geniuses this (elimination of idiosyncrasy in Reading) may be looked upon as unfortunate, but for the very important purpose of creating a well-knit social structure it may be considered a happy outcome. . . . As conscious directors of education we should recognize this and seek a policy preservative of state and not greatly destructive of originality, for a state preserved at such a cost may be scarce worth preserving."

One word more. I read Kelley's study with delight, and, if I may be forgiven for churlishness, with disappointment. The real problems of life and education are not concerned primarily with the minor unevennesses in the psychograms of individuals. The burning problem is that of the major differences between individuals and the extent to which nature and nurture have contributed to produce these gross differences. No doubt Kelley's study illuminates this problem also, but the system of lighting is quite indirect.

A final caution. Thorndike finds nature to be of major importance. Kelley finds nature to be of major importance. Thorndike concludes that nurture increases differences. Kelley concludes that nurture decreases differences. But as pointed out in the preceding paragraph, they are speaking of different matters. A fuller statement of where they differ shows that they do not differ at all. Thorndike concludes that nurture increases the differences between individuals. Kelley concludes that nurture decreases the differences between abilities within an individual. Straw men in education are sufficiently numerous. By all means let us preserve these two men from such a transubstantiation.

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BRONISLAW MALINOWSKI. *Crime and Custom in Savage Society*. New York. 1926. Harcourt, Brace. Pp. xii+132.

An exceedingly interesting series of observations regarding the natives of the Trobriand Archipelago in northwest Melanesia is

developed into a new concept of primitive law and of tribal relations. Until now the anthropologists, sociologists and psychologists have emphasized custom rather than law in primitive societies and, where they have admitted that any law existed, the insistence was that this law was of a criminal nature only. Such men as Rivers, Durkheim, Maine, Hobhouse and Hartland have also insisted that adherence to this custom was due to inertia or to "communistic ideals" or to "group-sentiment" and "group-instinct."

The present author insists that we must come to a new minimum definition of law. "The rules of law stand out from the rest (custom) in that they are felt and regarded as the obligations of one person and the rightful claims of another. They are sanctioned not by a mere psychological motive, but by a definite social machinery of binding force, based, as we know, upon mutual dependence and realized in the equivalent arrangement of reciprocal services, as well as in the combination of such claims into strands of multiple relationship. The ceremonial manner in which most of these transactions are carried out, which entails public control and criticism, adds still more to their binding force." (P. 55.) "It results also from the account here given that primitive law does not consist exclusively or even chiefly of negative injunctions, nor is all savage law criminal law." (P. 56.) "Civil law, the positive law governing all the phases of tribal life, consists then of a body of binding obligations, regarded as a right by one party and acknowledged as a duty by the other, kept in force by a specific mechanism of reciprocity and publicity inherent in the structure of their society. These rules of civil law are elastic and possess a certain latitude. They offer not only penalties for failure, but also premiums for an overdose of fulfilment. Their stringency is insured through the rational appreciation of cause and effect by the natives, combined with a number of social and personal sentiments such as ambition, vanity, pride, desire of self-enhancement by display, and also attachment, friendship, devotion and loyalty to kin." (P. 58.) And finally Malinowski gives his new minimum definition of law as follows (p. 59): "Law dwells not in a special system of decrees, which foresee and define possible forms of nonfulfilment and provide appropriate barriers and remedies. Law is the specific result of the configuration of obligations, which makes it impossible for the native to shirk his responsibility without suffering for it in the future. There is no religious sanction to these rules, no fear, superstitious or rational, enforces

them, no tribal punishment visits their breach, nor even the stigma of public opinion or moral blame." (P. 60.) "Thus the binding force of these rules is due to the natural mental trend of self-interest, ambition and vanity, set into play by a special social mechanism into which the obligatory actions are framed." (P. 67.)

From this point of view, the author considers the legal relations of these natives in their economic, religious and marriage relations, etc., in the daily humdrum life and in the unusual situations. Sorcery and voluntary suicide are considered conservative forces and sorcery is seldom abused. Suicide is a means of escape from situations without an issue and has in back of it motives of self-punishment, revenge, rehabilitation and sentimental grievance. In cases of suicide there is always a crime to expiate but there is also a protest against those who have brought this trespass to light.

In order to show that these laws are not the sort of customs which are "slavishly" or "instinctively" followed, the author gives some very interesting data of systematized methods of evading them and also examples of what happens when two different systems of laws come into conflict.

Not only is the material presented in this book exceedingly interesting but the author presents a new point of view with regard to primitive jurisprudence which, in the opinion of the reviewer, should be extremely fruitful for future research.

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J. J. STRASHEIM. *A New Method of Mental Testing*. Baltimore. 1926. Warwick & York. Pp. 158.

The author insists that intelligence testing has reached an impasse because the investigators who have developed the tests have not started out with any adequate definition of intelligence. The present book thus starts out with Spearman's definition of intelligence and the tests are developed from that point of view. This definition involves an eduction of relations and of correlates from three fundamentals and hence the tests are devised to ascertain the appreciation and ability to conceptualize and apply relations. There are three tests all formed along the same lines. These each consist of a series of stories to be read the testee. The first story of each set indicates a certain relation and the subsequent stories in each set present problems of increasing difficulty to which the relation must be applied. The development of the stories is exceedingly ingenious. The results

of the application of these tests to some 30 children—ranging in age from four and three-quarters to ten and one-half years are given and the results in each case are analyzed. Whether or not one accepts Spearman's definition of intelligence, the tests are interesting and should have a certain wide practical significance in the diagnosis of different levels of intelligence and in the differences in complexity of mental functioning. It is unfortunate that Strasheim has given us the analysis of so few cases.

The second part of the book is concerned with the part played by intelligence in learning. For this purpose a bright group of young children are compared with the dull group of children some two to three years older. A maze test and a complicated cancellation test are used. Both have increasing difficulties and both eventually involve the appreciation and utilization of relations. The author finds that the bright young group exceed the dull older group when the use of relations becomes necessary.

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BLACKHURST, JAMES H., *Investigations in the Hygiene of Reading*. Baltimore: 1927. Warwick & York. Pp. 63.

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NOTES AND NEWS

EDWARD BRADFORD TITCHENER, professor of psychology at Cornell University, died suddenly on August 3 at the age of sixty years.

DR. D. A. WORCESTER has been appointed associate professor of educational psychology in the University of Nebraska.

DR. DAVID S. HILL has resigned the presidency of the University of New Mexico to become research professor of education at the University of Alabama.

DR. HULSEY CASON has been promoted to professor of psychology at the University of Rochester.

THE announcement is made of a one-day conference on "Parent Education" in New York City at the Hotel Pennsylvania on November 2, 1927, under the auspices of the Child Study Association of America, Inc.

EDITORIAL ANNOUNCEMENT

The Editors of the Psychological Review Publications regret to announce the retirement of John B. Watson from the Board. Dr. Watson has been actively associated with these magazines since 1909. In 1910 he became responsible editor of the Psychological Review, in which position he continued till 1916; he then became responsible editor of the Journal of Experimental Psychology, for the starting of which he was largely responsible. Recently he has taken editorial charge of the Psychological Review during Dr. Warren's absence abroad. Dr. Watson feels that his other interests preclude his continuing to devote so large a portion of his time to editorial duties. We hope to avail ourselves of his experience and keen judgment in the capacity of advisory editor.

The following other recent changes in the Board may be noted. Raymond Dodge of Yale University has been added to the Editorial Board as editor of the Psychological Monographs, in place of Shepherd I. Franz, resigned. Madison Bentley has been appointed responsible editor of the Journal of Experimental Psychology in place of Dr. Watson. Walter S. Hunter, who assumed the editorship of the Psychological Index to succeed Dr. Bentley, has also been appointed responsible editor of the new Psychological Abstracts.

